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| EXAMINER |
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1762

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,731

Applicant(s)

HUTCHINSON ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-19, 52, 53 and 55-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-19, 52, 53 and 55-95 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/02/2006 has been entered.

Response to Amendment

2. Amendment filed on 6/02/2006 has been entered. Claims 15 and 54 have been cancelled. New claims 58-95 have been added. Claims 1-14, 16-19, 52, 53, and 55-95 are pending in the application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2, 3, 52, 53, 55-57, 62-79 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 2, 3, 52, 68-71, 74, 75, and 77 recite that a second coating is wax, paraffin, or low molecular weight polyethylene, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as filed discloses at page 33, P115, that "the final coating and drying of the preform provides scuff resistance to the surface of the preform and finished container in that the solution or dispersion contains diluted or suspended paraffin or wax, slipping agent, polysilane or low molecular weight polyethylene to reduce the surface tension of the container", where the solution or

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dispersion of top coatings is of *acrylic or polyester* (See specification, page 29, P103) NOT wax, paraffin, or low molecular weight polyethylene.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2, 16-19, 62-72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because

Claim 2 recites “a second thermoplastic resin selected from the group consisting of coating material ...” which renders the claim indefinite because “coating material” does not constitute a “group”.

Claims 16-18 renders the claim indefinite because they depend on cancelled claim 15. For examining purposes the claims were treated as depending on claim 1.

Claim 19 recites the limitation "said third coating" in line 1. There is insufficient antecedent basis for this limitation in the claim. For examining purposes the phrase was interpreted as ""said second coating".

Claim Objections

7. Claims 2, 58, 62, 73, 81, and 82 are objected to because of the following informalities:

“a Phenoxy-type thermoplastic” in claims 2, 73, and 81 should be changed to “a phenoxy-type thermoplastic”.

“PHAE” in claims 58, 62, 73, and 82 should be changed to “polyhydroxyaminoether copolymers”.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Rejection of claims 1, 3, 5, 12, 14, 52-53, 57 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 31, 32, 34-38 of U.S. Patent No. 6,676,883 in view of Bonnebat et al (US 4,731,266) has been withdrawn due to amendment.

10. Rejection of claim 2 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 31, 32, 34-38 of U.S. Patent No. 6,676,883 has been withdrawn due to amendment.

11. Rejection of claims 4-7, 9-12, 19 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 31, 32, 34-38 of U.S. Patent No. 6,676,883 in view of Bonnebat et al, further in view of Kennedy (US 4,505,951) has been withdrawn due to amendment.

12. Rejection of claims 6, 8, 13 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 31, 32, 34-38 of U.S. Patent No. 6,676,883 in view of Bonnebat et al, further in view of Cobbs, Jr et al (US 4,573,429) has been withdrawn due to amendment.

13. Rejection of claim 18 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 31, 32, 34-38 of U.S. Patent No. 6,676,883 in view of Bonnebat et al, further in view of Dworak et al (US 6,350,796) has been withdrawn due to amendment.

14. Claims 1-4, 52, 68-71, 74, 75, and 77 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 31, 32, 34-38 of U.S. Patent No. 6,676,883 in view of Mallya et al (US 6,489,387).

The Patent '883 fails to teach that the phenoxy-type coating of the two-ply laminate is further coated with a lubricant.

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Mallya et al teach that coating plastic bottles (See column 9, lines 55-56) with a low surface energy coating, such as polyethylene waxes (claimed low molecular polyethylene) and fatty acid salts, reduces scratching during conveying of bottles to filling and labeling stations (See column 9, lines 31-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied a low surface energy coating, such as polyethylene waxes on the phenoxy-type coating of the two-ply laminate of Patent '883 with the expectation of reducing scratching during conveying of bottles to filling and labeling stations, as taught by Mallya et al.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Rejection of claim 2 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kennedy (US 4,505,951) has been withdrawn due to amendment.

18. Rejection of claims 1-2, 4-9, 11, 14, 19, 52-53, 57 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maruhashi (US 4,393,106) has been withdrawn due to amendment.

19. Rejection of claims 3, 19, 55, and 56 under 35 U.S.C. 103(a) as being unpatentable over Maruhashi has been withdrawn due to amendment.

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20. Rejection of claims 8 and 13 under 35 U.S.C. 103(a) as being unpatentable over Maruhashi in view of Cobbs, Jr et al (US 4,573,429) has been withdrawn due to amendment.

21. Rejection of claims 10 and 12 under 35 U.S.C. 103(a) as being unpatentable over Maruhashi in view of Kennedy (US 4,505,951) has been withdrawn due to amendment.

22. Claims 1-7, 9-12, 14, 16, 17, 19, 52, 53, 55-79, 81, 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruhashi (US 4,393,106) in view of Farha (US 5,472,753) and Noda (US 6,872,802).

Maruhashi are applied here for the same reasons as above and as set forth in paragraph 10 of the Office Action mailed on 1/03/2006. As was discussed in the paragraph 10, Maruhashi teaches a polyethylene terephthalate container (See column 7, lines 60-63; column 8, lines 3-4) coated with a coating layer 6 of an *aqueous* latex (claimed dispersion) of a (thermoplastic) polyvinylidene chloride (See column 2, lines 42-57) comprising 20 wt % of glycidyl methacrylate (claimed epoxy resin) (See column 16, lines 17-18) and an outer protecting layer 7 (See Fig. 1; column 4, lines 1-6) of a thermoplastic film-forming resin (See column 8, lines 44-50) selected from the group consisting of polyester (See column 8, line 68) e.g. PET (See column 8, line 68), or polyethylene terephthalate/isophthalate (See column 9, lines 1-2), acrylic resin (See column 9, lines 10-17), epoxy resin (See column 9, lines 26-32, 39-43), which is different from a glycidyl methacrylate component of a first coating layer 6. Maruhashi teaches that the **protecting** layer may be formed by **melt molding** instead of coating with the *aqueous* latex or organic solvent solution (See column 12, lines 12-14), i.e. the protecting layer 7 may be of thermoplastic epoxy resin. Maruhashi teaches that this multi-layer structure provides the plastic container with an excellent in the barrier property to gases such as nitrogen, carbon dioxide gas, oxygen and steam, and moisture (See column 1, lines 6-18).

Maruhashi fails to teach that the coating layer 6 comprises phenoxy-type resins (Claims 1, 2, 52, 81) such as hydroxy-phenoxyether polymer (Claim 16); the hydroxy-phenoxyether polymer comprising polyhydroxyaminoether copolymer (Claims 58, 82) made from resorcinol diglycidyl ether, hydroquinone diglycidyl ether, bisphenol A diglycidyl ether, or mixtures thereof (Claim 17).

Farha teaches that "phenoxy-type" thermoplastics such as poly(hydroxy ethers), poly(hydroxy ester ethers) and poly(hydroxy amino ethers), which are known to possess good

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oxygen barrier properties combined with excellent mechanical properties (See column 2, lines 39-51), may be used to provide gas barrier properties by forming *either* three-ply laminates with thermoplastic polyesters in general or PET bottles in particular (See column 2, lines 51-55; column 3, lines 37-39) where an intermediate layer of an amorphous, thermoplastic copolyester preferably (1,4-cyclohexylenemethylene)terephthalate-co-isophthalate (See column 8, lines 16-22) is placed between the phenoxy-type thermoplastic layer and PET substrate, or two-ply laminates where outer layer comprises a polymeric composition which includes between about 50% and about 90% of the phenoxy-type thermoplastic and about 10% to about 50% of the amorphous copolyester polymer (See column 9, lines 31-43) preferably (1,4-cyclohexylenemethylene)terephthalate-co-isophthalate (See column 9, lines 31-33). The laminates are made by extrusion or coextrusion (See column 11, lines 43-45) of molten resins (See column 11, lines 57-60). The amorphous copolyester, disposed as an intermediate layer between the phenoxy-type thermoplastic layer and the PET layer in the three-ply laminate embodiment, is compatible with and thus adheres to both of these plies (See column 9, lines 59-65). The two layers that constitute the two-ply embodiment adhere to each other primarily because of the compatibility and, therefore, because of the bond formed between the copolyester constituent of the outer layer and the PET substrate layer (See column 9, lines 65-67; column 10, lines 1-3). Farha fails to teach that instead of extruding molten resins, the intermediate and outer layers are applied from aqueous solutions or dispersions (Claim 1). Noda teaches that barrier coatings (See column 18, line 30) may be applied directly to plastic articles by extrusion coating of a hot melt (solid molten or softened by heat), roller coating, brush coating, dip coating, spray coating, or cast coating as aqueous solutions or emulsions or as a reactive liquid that solidifies by a polymerization reaction induced by radiation. (See column 18, lines 19-24, 36-45). In other words, Noda teaches that extrusion coating of a hot melt is functionally equivalent to roller coating, brush coating, dip coating, spray coating using aqueous solutions or emulsions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied an intermediate layer of a thermoplastic copolyester and an outer layer of thermoplastic poly(hydroxy amino ethers) or a mixture of the thermoplastic copolyester and thermoplastic poly(hydroxy amino ethers) to an inner substrate layer of a polyethylene terephthalate in Farha by roller coating, brush coating, dip coating, spray coating using aqueous solutions or emulsions

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instead of extrusion coating of a hot melt with the expectation of providing the desired three-ply laminate, since Noda teaches that extrusion coating of a hot melt is functionally equivalent to roller coating, brush coating, dip coating, spray coating using aqueous solutions or emulsions. The Examiner's Note: any polymer, including polymers of Farha, can be either dissolved or dispersed in water thereby forming an aqueous solution or dispersion of polymer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a mixture of the thermoplastic copolyester and thermoplastic poly(hydroxy amino ethers) for forming a first coating layer 6 in Maruhashi instead of mixture of thermoplastic polyvinylidene chloride and glycidyl methacrylate with the expectation of providing the desired good oxygen barrier properties combined with excellent mechanical properties since Farha teaches that a coating layer of a mixture of phenoxy-type thermoplastic and a thermoplastic amorphous copolyester provides a PET container with good oxygen barrier properties combined with excellent mechanical properties, and the mixture of the thermoplastic copolyester and thermoplastic poly(hydroxy amino ethers) adheres to PET substrate because the amorphous copolyester constituent is compatible and forms a bond with the PET substrate, and Noda teaches that extrusion coating of a hot melt of Farha is functionally equivalent to roller coating, brush coating, dip coating, spray coating using aqueous solutions or emulsions.

It is held that the selection of a known material based on its **suitability for its intended use** supported a *prima facie obviousness determination* in Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

As to claim 2, in a polymeric composition of Farha, which includes between about 50% and about 90% of the phenoxy-type thermoplastic and about 10% to about 50% of the amorphous copolyester polymer, the phenoxy-type thermoplastic is an *essential* component because the phenoxy-type thermoplastic provides barrier properties.

As to claim 4, Maruhashi teaches that in forming the coating layer or protectng layer, known additives may be incorporated into coating and/or protecting layers (See column 12, lines 29-31) such as *crosslinking agents* (See column 12, line 46). In other words, the coating layer 6 or protectng layer 7 crosslink, and thereby provide chemical and mechanical abuse resistance, as well known in the art.

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As to claim 5, Maruhashi teaches that a bottle substrate may be made of *polypropylene* (See column 7, lines 67-68), *polyester* (See column 8, lines 23-25) or *polycarbonate* (See column 8, lines 33-34).

As to claim 9-11, Maruhashi teaches that the coating layer 6 and outer protecting layer 7 are dried at 40-160°C (See column 11, lines 22-23) by hot circulating air (claimed forced air) (See column 16, lines 41-42), UV ray or radial ray drying (See column 11, lines 19-34). It is well known in the art that radial ray drying is conventionally performed by infrared.

As to claim 14, Maruhashi teaches that the coatings have gas barrier properties (See column 2, lines 57-68) and UV-protected (See column 12, lines 44-45).

As to claims 60-61, Maruhashi fails to teach that one or more layers are disposed on the second coating layer or between the first and second coating layers.

However, it is a well-known principle to reapply a coating composition to achieve a desired thickness of a final coating depending on intended use of the final coated product.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have reapplied first and/or second coating dispersions in Maruhashi, according to well-known principle, with the expectation of providing the desired thickness of a final coating.

It is the Examiner's position that the article would exhibit substantially no blushing or whitening when exposed to water because it is made by a process substantially identical to that of claimed invention.

It is the Examiner's position that the container is withdrawn from the dip, spray, or cast coating at a rate so as to remove excess of a coating material and form a first coherent film inherently. If this position could be argued, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have withdrawn the container from the dip, spray, or cast coating in Maruhashi at such a rate so that to remove excess of a coating material and form the desired coherent film.

As to claims 68-71, 74, 75, 77, Maruhashi teaches that in forming the coating layer or protecting layer, known additives may be incorporated into coating and/or protecting layers (See column 12, lines 29-31) such as *lubricant* (See column 12, lines 46-47).

Since Maruhashi does not limit lubricants, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added any conventional lubricant

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including claimed lubricants to a protecting layer of Maruhashi with the expectation of providing the desired sliding characteristics.

23. Claims 1-4, 52, 68-71, 74, 75, and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farha in view of Noda, further in view of Mallya et al.

Farha is applied here for the same reasons as above. Farha fails to teach that instead of extruding molten resins, the intermediate and outer layers are applied from aqueous solutions or dispersions.

Noda teaches that barrier coatings (See column 18, line 30) may be applied directly to plastic articles by extrusion coating of a hot melt (solid molten or softened by heat), roller coating, brush coating, dip coating, spray coating, or cast coating as aqueous solutions or emulsions or as a reactive liquid that solidifies by a polymerization reaction induced by radiation. (See column 18, lines 19-24, 36-45). In other words, Noda teaches that extrusion coating of a hot melt is functionally equivalent to roller coating, brush coating, dip coating, spray coating using aqueous solutions or emulsions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied an intermediate layer of a thermoplastic copolyester and an outer layer of thermoplastic poly(hydroxy amino ethers) or a mixture of the thermoplastic copolyester and thermoplastic poly(hydroxy amino ethers) to an inner substrate layer of a polyethylene terephthalate in Farha by roller coating, brush coating, dip coating, spray coating using aqueous solutions or emulsions instead of extrusion coating of a hot melt with the expectation of providing the desired three-ply laminate, since Noda teaches that extrusion coating of a hot melt is functionally equivalent to roller coating, brush coating, dip coating, spray coating using aqueous solutions or emulsions. The Examiner's Note: any polymer, including polymers of Farha, can be either dissolved or dispersed in water thereby forming an aqueous solution or dispersion of polymer.

Farha in view of Noda fails to teach that the phenoxy-type coating of the two-ply laminate is further coated with a lubricant.

Mallya et al teach that coating plastic bottles (See column 9, lines 55-56) with a low surface energy coating, such as polyethylene waxes (claimed low molecular polyethylene) and

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fatty acid salts, reduces scratching during conveying of bottles to filling and labeling stations (See column 9, lines 31-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied a low surface energy coating, such as polyethylene waxes on the phenoxy-type coating of the two-ply laminate of Farha in view of Noda with the expectation of reducing scratching during conveying of bottles to filling and labeling stations, as taught by Mallya et al.

24. Claims 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruhashi in view of Farha and Noda, further in view of Cobbs, Jr et al (US 4,573,429).

Maruhashi in view of Farha and Noda is applied here for the same reasons as above. Maruhashi in view of Farha and Noda fails to teach that the process further comprises the removal of any excess material between the coating and curing/drying steps (Claim 8), the article is *rotated* to achieve consistent coating and curing/drying (Claim 13).

Cobbs, Jr et al teach that a container can be coated by spraying a coating material (See Fig. 1) by rotating the container in front of one or more airless spray nozzles to achieve complete coating of the outside surface to be coated (See column 6, lines 33-43; column 9, lines 10-14) and thereby removing any excess material. The coating was dried to a tack-free or dry to the touch state by radiant heating by continuing rotation of the bottle over a hot plate (See column 12, lines 14-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have coated a container of Maruhashi in view of Farha and Noda by spraying the container while rotating and drying the container while rotating with the expectation of providing the desired complete uniform coating of the outside surface to be coated, as taught by Cobbs, Jr et al.

25. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruhashi in view of Farha and Noda, further in view of Kennedy (US 4,505,951).

Maruhashi in view of Farha and Noda is applied here for the same reasons as above. Maruhashi in view of Farha and Noda fails to teach that the coatings are dried using infrared heating (Claim 12) together with a forced air (Claim 10).

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Kennedy teaches drying a water-based latex of polyvinylidene chloride coating on the outer surface of PET container or preform applied by known means such as spraying, dipping, flow coating or roller coating (See column 2, lines 59-61) by simultaneously heating the latex on the container or preform with infra-red light energy and blowing cooling air (claimed forced air) at a temperature of about 40⁰F to 60⁰F (See column 3, lines 6-24; column 4, lines 1-13) allows preventing undesirable shrinkage of the container while maximizing the removal of liquids without prematurely sealing the surface which would entrap unexpelled liquid (See column 1, lines 35-39).

As to claim 10, It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used infrared energy to heat coatings in Maruhashi in view of Farha and Noda with the expectation of providing the desired sufficiently dried coatings since Kennedy teaches that infrared energy can be used for heat-drying the coatings.

As to claim 12, It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used infra-red light energy and blowing cooling air in Maruhashi in view of Farha and Noda at a temperature of about 40⁰F to 60⁰F with the expectation of preventing undesirable shrinkage of the container while maximizing the removal of liquids without prematurely sealing the surface which would entrap unexpelled liquid, as taught by Kennedy.

26. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maruhashi in view of Farha and Noda, further in view of Dworak et al (US 6,350,796).

Maruhashi in view of Farha and Noda is applied here for the same reasons as above. Maruhashi in view of Farha and Noda fails to teach that solution or dispersion of the thermoplastic epoxy resin comprises organic acid salts made from the reaction of polyhydroxyaminoethers with phosphoric acid, lactic acid, malic acid, citric acid, acetic acid, glycolic acid and/or mixtures thereof.

Dworak et al teach that an epoxy-amine adduct is at least partly neutralized with an aqueous acid, preferably an organic acid such as lactic acid or citric acid, and is dispersed by addition of water, preferably in a plurality of portions, with thorough mixing (See column 4, lines 26-31).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have neutralized polyhydroxyaminoethers of Maruhashi in view of Farha and Noda with an organic acid such as lactic acid or citric acid with the expectation of providing the desired solution or dispersion in water, as taught by Dworak et al.

27. Claims 80, 83-95 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maruhashi for the reasons of record set forth in paragraph 10 of the Office Action mailed on 1/03/2006 because Maruhashi teaches that an outer protecting layer 7 (claimed second layer) (See Fig. 1; column 4, lines 1-6) of a thermoplastic film-forming resin (See column 8, lines 44-50) is selected from the group consisting of polyester (See column 8, line 68), acrylic resin (See column 9, lines 10-17), epoxy resin (See column 9, lines 26-32, 39-43), which is different from a glycidyl methacrylate component of a first coating layer 6.

As to claim 83, the coating layer 6 and outer protecting layer 7 are dried by UV ray or hot air (See column 11, lines 19-34). It is the Examiner's position that under these conditions, the layers would be at least partially crosslinked, as required by claim.

As to claims 86-87, Maruhashi fails to teach that one or more layers are disposed between the first and second coating layers.

However, it is a well-known principle to reapply a coating composition to achieve a desired thickness of a final coating depending on intended use of the final coated product.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have reapplied a first coating dispersion in Maruhashi, according to well-known principle, with the expectation of providing the desired thickness of a final coating.

As to claim 89, the limitations of dependent claim 89 are described in the specification as being not subject matter of claimed invention (See specification, page 30, P105).

As to claim 92, in forming the coating layer or protecting layer, known additives may be incorporated into coating and/or protecting layers (See column 12, lines 29-31) such as *crosslinking agents* (See column 12, line 46).

As to claim 94, polypropylene may be used as a resin for formation of a bottle substrate (See column 7, lines 67-68).

As to claim 95, in forming the coating layer or protecting layer, known additives may be incorporated into coating and/or protecting layers (See column 12, lines 29-31) such as an antioxidant (a compound used to absorb and bind oxygen) (See column 12, line 44), i.e. oxygen scavenger.

28. Claim 89 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maruhashi in view of Fagerburg et al (US 4499262).

Maruhashi are applied here for the same reasons as above. Maruhashi fails to teach that polyester of the second coating is a sulfonated polyester.

Fagerburg et al teach that sulfo-modified PET have improved properties compared to PET such as improved planar stretch ratios, improved acetaldehyde generation (See column 1, lines 15-53) and may be cast into a variety of shaped articles, including for example, films, sheets and containers (See column 1, lines 57-60). It is well known in the art that sulfo-modified polymers are water-soluble or water dispersible.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used sulfo-modified PET for forming a protecting coating in Maruhashi instead of PET with the expectation of providing the desired improved properties compared to PET, as taught by Fagerburg et al.

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 3900286 to Wegmann et al show a low-molecular polyethylene wax is used in coating (See column 6, lines 56-57).

Response to Arguments

30. Applicant's arguments with respect to rejected claims have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Elena Tsoy
Primary Examiner
Art Unit 1762

ELENA TSOY
PRIMARY EXAMINER
ETsoy

July 12, 2006